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A NEW DIRECTION FOR U.S. MARITIME POLICY

SHIPBUILDERS COUNCIL
OF AMERICA

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Recommendations of Commercial Shipbuilding Committee

SHIPBUILDERS COUNCIL OF AMERICA

Pertaining To National Maritime Policy

March 2, 1979
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RECOMMENDATIONS

- Legislation to Encourage and Facilitate Bilateral Ocean Cargo Sharing Agreements
- Expand Enforcement and Broaden Scope of Present Cargo Preference Law (Public Law 664)
- Extend Section 27, Merchant Marine Act of 1920 (Jones Act) to Virgin Islands
- Improve Capital Recovery Allowances Under Tax Law for Investment in U.S.-Built Ships
- Restructure Construction (CDS) and Operating (ODS) Subsidies for Bulk Vessels Into Single Per Diem Subsidy Including Capital Element
- Expand Definition of Term "Qualified Vessel" to Permit Tax Deferred Funds Held in Capital Construction Funds to Be Used for Construction of U.S.-Flag Vessels to Be Operated in U.S. Domestic Trades
- Amend Sections 804 and 805 of the Merchant Marine Act of 1936 so that U.S.-Flag Subsidized Operators May Own and Operate Non-Subsidized U.S.-Flag and Foreign-Flag Vessels in the Bulk Trades of the United States
- Amend Section 905(a) of the Merchant Marine Act of 1936 to Authorize Liquid and Dry Bulk ODS Vessels Unlimited Worldwide Trading with no Abatement of Subsidy
- Allow Foreign Sale of CDS-Built Vessels After Ten Years of U.S. Operation on Condition Proceeds are placed in Capital Construction Fund to Construct Replacement Vessels in U.S. within Specified Period
- Vessels Constructed for the Account of the United States Government Should be Required to be Built in the United States

Late in 1978, THE (NY) JOURNAL OF COMMERCE (Nov. 20, 1978), saw fit to observe that "United States maritime policy is indeed a shambles . . . there is no consensus . . . neither is there any visible leadership." Earlier in the year, Britain's MARINE WEEK (June 16, 1978), from the vantage point of distance, made this statement: ". . . the U.S., as the world's largest trading nation, not only lacks a merchant fleet commensurate with true requirements but will also shortly lack the means to achieve it."

These pronouncements reflect the tenor of a crescendo of opinion which has developed here and abroad over the past decade. Progress with respect to U.S. shipping and U.S. shipbuilding — and there has been considerable, technologically and otherwise — has been overshadowed by a devolution in cargo carriage penetration by U.S.-flag merchant ships and in ship construction potentials for U.S. shipyards. A variety of factors have shaped this phenomenon which has serious implications in terms of national security, industrial momentum, economic growth and shipyard workforce/operational stability:

- At the highest level of government, noble platitudes have not been translated into clear and positive policy direction.
- Among and within agencies of the Federal Government, there has been little harmony with respect to key issues and problem solutions.
- Political, statutory and functional mechanisms have been ineffective in assuring needed shipping and shipyard resources.
- National reliance on imports of critical and strategic materials (liquid and bulk) has been steadily expanding.
- Volumes of U.S. exports and imports (except for liner cargoes) carried by U.S.-flag shipping have been steadily declining for more than ten years.
- Public impressions of U.S. maritime affairs have been formed by superficial and misleading images of excessively high costs, internecine disputes and litigation, poor efficiency and productivity, questionable business practices and faulty management.
- Profits for U.S. shipping and shipyard companies have been exceptions rather than general.
- Application of the concept of series construction of merchant ships of identical or near-identical design as a means of lowering shipyard unit cost/prices and enlarging the shipping fleet has not been generally possible because of the scarcity of major market opportunities for U.S.-flag vessels.

These detractions, however, need to be viewed in a longer perspective. Ocean shipping worldwide, by reason of adverse economic repercussions following the 1973 Middle East oil embargo, has been in a state of oversupply and depression. This condition is expected to persist on most trade routes until the mid-1980's.

The demand for new merchant ships has accordingly dropped substantially. Nearly 25 million dwt of tankers and about nine million dwt of dry cargo

vessels are currently idle throughout the world. Some recently delivered ships have gone immediately into lay-up. The result has been a global surplus of shipbuilding capacity. An increasing number of shipbuilders are chasing a decreasing number of ship construction opportunities. Amid international discussions of ways to reduce overcapacity, below-cost prices are being offered by many foreign shipbuilders: in many cases, with the approval and financial indemnification of their governments. A demoralizing subsidy war is rapidly evolving. Some nations, previously openly critical of maritime assistance programs, have now added direct subsidy to a subtle array of indirect credit and tax mechanisms. Acknowledgment of the continuing strategic and economic importance of shipping and shipbuilding has been the motivation.[1]

The governments of most U.S. trading partners obviously appreciate more sensitively than the U.S. Government the importance of a strong maritime industry to national economic and security interests. With other countries, control of substantial portions of national cargo is rapidly becoming the rule rather than the exception. Meanwhile, spokesmen and policy-makers for the United States naively espouse free market premises. In these contexts, it is important to recognize that much of the world's cargo is already subject to unilateral control, either through cargo reservation laws[2] or more importantly through nationally-coordinated policies of buying imports FOB at origin and selling exports at delivered prices.[3]

The maritime strategies of Japan, Russia and China, though different, are all significantly based on control of import/export cargoes. Securing a substantial share of petroleum export shipping by OPEC nations is the announced policy for the future. And many developing economies — Brazil, Chile, Equador, Korea, Taiwan, to name just a few — clearly regard national fleet development based on national cargo reservations as an integral part of their overall economic growth programs.

In light of this international environment, the effects of the lack of a strong, coherent and responsive U.S. maritime policy should hardly be surprising. The overall volume of U.S. exports and imports carried by U.S. flag shipping has continued to decline and is now less than five percent. Only one to two percent of dry bulk cargoes and three to four percent of imported oil cargoes are carried by U.S.-flag, U.S.-built vessels. Competition from foreign flag shipping has intensified as the recent focus on liner rebating has illustrated.

Soviet shipping has engaged in predatory rate cutting to permit the rapid expansion needed to complement the movement of the Soviet Navy toward supremacy on the seas. More recently, there has been evidence that Norwegian operators have engaged in similar practices to enable greater utilization of their cross-trading fleets. Meantime, several U.S. shipping lines have filed for or face bankruptcy. Shipowners have thus not been enthusiastic about ordering new vessels or replacing old ones.[4] In any event, existing vessels covered by operating differential subsidy (ODS) contracts will not be replaced in substantial numbers before the mid-1980's. Question exists as to whether or not such replacements will indeed occur without change in certain ODS conditions, considered to be onerous.

In total effect, the backlog of merchant shipbuilding contracts in U.S. shipyards, placed earlier in this decade, is rapidly diminishing, and the present

unpromising outlook for new business will not support a stable workforce.[5] More than 30 percent of the U.S. shipyard workforce now faces the prospect of unemployment, much of which will apply to minority workers in areas of chronic unemployment, over the next several years.[6] Additionally, a lack of new orders and sharply shrinking profit margins will support neither proper facility maintenance nor investment in productivity improvements. The specter of idle facilities is inescapable.

In concert, these facts dramatize (1) the inefficacy of recent national maritime endeavors, and (2) the imperativeness of a comprehensive national maritime policy which will sustain sufficient shipping and shipyard resources under sovereign control to assure national security requirements with respect to the seas.[7] Equivocation as to national direction must be ended.

For the purpose of developing a shipbuilding consensus with respect to suitable elements to be considered in organizing an effective national maritime policy, the Commercial Shipbuilding Committee of the Shipbuilders Council of America has marshalled industry personnel and resources over the past 20 months in the conduct of an in-depth analysis of historical, economic, foreign trade, regulatory, marketing and geo-political patterns that bear on shipping demand and the responsive construction of new ships.

This intensive effort has produced ten recommendations which, in the collective judgment of the Council's Board of Directors, merit priority attention if presently forecasted downward trends are to be promptly reversed. These recommendations — or market initiatives — center on opportunities for *selective* bilateral shipping agreements affecting bulk movements between the United States and other nations. They are intended to be compatible with the objectives of the Trade Act of 1974. They are designed to encourage flexibility in shipping operations to maximize capacity utilization and return on investment capital. They are predicated on the following realities:

- The intent of the Congress, as declared precisely in various statutes, and frequently reaffirmed, has been circumvented, consciously or otherwise.
- U.S. shipbuilders will thrive only to the extent that the U.S.-flag shipping fleet thrives, and U.S.-flag shipping operators will thrive only to the extent that U.S. national maritime policy is effective.
- Ships should not be built purely for the sake of building ships. They should be put to productive and profitable use.
- Shipbuilding policy cannot be rationally or realistically formulated in a vacuum without cognizance of other equally important national policy considerations. The shipbuilding problem clearly cannot be solved in isolation from all other national problems.
- There has not been for some while, the degree of cohesion of purpose and coordination among and within agencies of the Federal Government which is basic to enunciation, enhancement and effectiveness of a shipbuilding industrial strategy in support of U.S. national interests.

- Shipyards in one country are not competing with shipyards in another country. Governments are competing with governments to capture ship construction opportunities — wherever, whenever and at whatever price — to serve what is considered to be their own self-interest.

- At least two major U.S.-flag shipping companies have already moved to take advantage of pricing manipulation in other shipbuilding nations.

It must be emphasized that the following ten recommendations are not all-inclusive. The viewpoints of Federal policy-makers, Congressional leaders, shipowners/operators, shippers and the investment community need to be fully registered as well and appropriately recognized. It has, however, been evident that the principle of bilateralism or cargo sharing has considerable support, in and out of government, as an effective mechanism for stimulating a logical expansion of U.S. shipping resources, and, in turn, as a basis for sustaining an essential shipbuilding mobilization base.

These, then, are the Committee's primary recommendations endorsed by the Council's Board of Directors: (Supplementary recommendations are listed in Appendix A.)

1. Legislation to Encourage and Facilitate Bilateral Ocean Cargo Sharing Agreements (Appendix F)

In furtherance to the preamble to this set of recommendations, it must be emphasized — and reemphasized — that improvement in the presently self-defeating posture of U.S. maritime affairs is most unlikely without decisive changes in some of the fundamental premises of U.S. foreign policy. Against the background of recent events in the Middle East, Professor Irving Kristol of New York University in THE WALL STREET JOURNAL and THE WASHINGTON (DC) STAR (Jan. 18 and 21, 1979 respectively), has characterized the "utopian moral intentions" of the Wilsonian liberalism of the past 50 years as "decadent" and U.S. foreign policy today as "patently bankrupt." This opinion is widely shared.

In Professor Kristol's words: "our policy is not only bankrupt in the sense of our being unable to act, but bankrupt in the sense that we have obviously lost the ability even to think coherently about foreign policy . . . this earth will be a place where American *ideals* are respected only if the world also respects our interests — which it is not likely to do if we show no respect for our own *interests*." As has been indicated, U.S. maritime interests suffer from both domestic and international disrespect, and relevant policies of the past two decades have only been delusory.

Specifically as concerning U.S. maritime self-interests, it is deemed essential that the Congress adopt as an adjunct to the Merchant Marine Act of 1936, as amended by the Merchant Marine Act of 1970, an unequivocal statement of policy, purpose and direction which declares that:

(1) The United States will move sealifted cargoes of all types to and from the United States in such manner that a specified fair proportion

of such cargoes will be carried upon vessels of U.S. registry built in the United States.

(2) The economic well-being and national security of the United States are vitally dependent upon maintenance of a modern, efficient U.S.-flag merchant fleet coupled with the maintenance of a modern and effective U.S. shipbuilding capability, and,

(3) The Executive Departments and agencies of the Federal Government will promptly negotiate with other nations bilateral cargo sharing agreements to effect movements of cargoes between trading partners — nations to be parties to these agreements — in accord with minimum cargo sharing as follows: (a) as to general cargoes (breakbulk, containerized or roll-on/roll-off) — 40 percent to each trading partner and 20 percent to third parties; (b) as to dry bulk cargoes (grain, ores, solid fuels, lumber, chemically produced or natural fibers, and so on) — 20 percent to each trading partner and 60 percent to third parties; and, (c) as to liquid bulk cargoes (crude or refined petroleum products, chemically manufactured products, or naturally occurring gases or liquids whether changed in state by heating or cooling) — 10 percent to each trading partner and 80 percent to third parties. In the case of short haul of liquid bulk cargoes, sharing based on 20 percent to each trading partner and 60 percent to third parties would seem feasible. In the case of liquified natural gas (LNG) projects, however, a continuance of the general principle of a 50/50 percent division of shipping volume between supplying and consuming nations is contemplated. As to implementation of these objectives, it is envisioned that:

(1) Responsibility for negotiation of such agreements should rest with the Department of State with the explicit assistance of the Maritime Administration and the ordained instruction that the results and status of such negotiations — treaties and/or agreements and compliance thereto — will be reported annually within 90 days following the beginning of each calendar year to the Congress.

(2) The Department of State, the Maritime Administration, the Federal Maritime Commission, and all other agencies and bureaus of the government should be specifically directed to augment their own efforts in these responsibilities by encouragement and assistance to individual U.S. companies and/or U.S. shipping conference members to make possible rational bilateral trading and cargo sharing arrangements between the commercial interests within trading partners. Implicitly, administrative waiver of established cargo carriage percentages would be permissible for limited periods of time only if third party carriage of such cargoes can be shown to be in the national interest by the President of the United States.

(3) Authorizing and implementing statutes should be reviewed from time to time to change and/or modify percentages of cargo shares as deemed appropriate.

These actions are imperative to the self-preservation of the United States in a world which is becoming more and more protectionist in terms of movements of trade through national law or by administrative policy. For too long, the United States has allowed its commerce movements to be monopolized by foreign interests who have been able to capitalize on out-dated free trade premises which influence U.S. policy and decision-making. These foreign interests have thereby been able to dump excess shipping into the U.S. market, to use shipping as a major source of hard currencies, and to exploit the U.S. market for shipping as a means of fostering their own national policies and ideologies.

Self-protection should become a frontpiece of U.S. foreign policy, and the shipping policy here recommended can be the basis of such a turn-around in direction and policy.

It also needs to be mentioned that to the degree that bilateralization as a policy is adopted by the U.S. Government, private investors will more favorably consider U.S. shipping projects, and vessels will be built in the United States for operation under the U.S. flag. Furthermore, a significant increase in cargo carriage by U.S.-built, U.S.-operated merchant vessels could substantially contribute toward reduction of the persistent balance of payments deficit. Bilateral arrangements are particularly desirable with principle trading partners, such as Japan and Korea, and would provide protection against interruption of oil supply as unilateral preferences are undertaken by Saudi Arabia, Nigeria, Algeria, Venezuela, and others. The United States would thereby achieve an essential degree of functional independence of maritime capacity.

2. Expand Enforcement and Broaden Scope of Present Cargo Preference Law (Public Law 664)

Over the years, there have been various complaints from U.S.-flag vessel operators concerning the manner in which this long-standing statute is administered by agencies of the Federal Government. By this statute, "at least 50 percentum of the gross tonnage" of equipment, materials or commodities purchased by the public treasury are to be transported on privately-owned U.S.-flag, U.S.-built commercial vessels. Even so, there have been contrary interpretations by Executive Departments and agencies to the effect that certain U.S. government-impelled cargoes are exempt from the provisions of PL-664. Legislative clarification to assure uniform application to all programs and transactions involving U.S. Government assistance and financing is overdue. It is not intended that the export promotion purposes of these programs would be compromised.

Because of the almost complete absence of viable opportunities for dry bulk movements in U.S. domestic trades, cargoes defined as "government-impelled" under PL-664 represent the only protected market for unsubsidized dry bulk carriers and the growing trend to circumvent enforcement of this law offers neither depth or stability. The recent transfer in funding for one of the largest U.S. foreign aid (Agency for International Development) grain programs from a commodity to cash grant basis seems to pave the way for further evasion of the 50 percent requirement.

More importantly, the present narrow interpretation of the intent of PL-664 excludes certain cargoes exported under Commodity Credit Corporation (CCC) credits. It is therefore proposed that legislation be enacted to create a 50 percent U.S.-flag shipping reservation for cargo exported under CCC short and intermediate term credits and any other similar bulk commercial export promotion program supported by government funding or guarantees. These actions would enable rebuilding of the U.S. dry bulk fleet to commence immediately, while continued orderly growth would spring from bilateral shipping agreements as described in recommendation No. 1 above. Furthermore, use of subsidized vessels built under an improved tax structure, as outlined in recommendation No. 4 below, should enhance the ability of U.S.-flag owners to compete with foreign-flag rates.

3. Extend Section 27, Merchant Marine Act of 1920 (Jones Act) to Virgin Islands

The Virgin Islands, since their acquisition from Denmark, have not been brought within the purview of the coastwise laws of the United States. Section 877, Title 46 USC, reads, in part, as follows:

> ". . . the coastwise laws of the United States shall not extend to the Virgin Islands of the United States until the President of the United States shall, by proclamation, declare that such coastwise laws shall extend to the Virgin Islands and fix a date for the going into effect of same."

The absence of adequate American-flag shipping to participate in the Virgin Islands' then-important bunkering trade and to service other trades to the Virgin Islands was cited originally as necessitating this action. Implicit in the language quoted above, however, is the eventuality of a Presidential proclamation to conform the Virgin Islands to the coastwise laws of the United States in the same manner as all other states, territories and possessions.

The question of the adequacy of available shipping service would now appear to be moot. The Virgin Islands bunkering trade has long since been diminished into obscurity. It can no longer be effectively argued that the economy of the Virgin Islands would be affected differently from any other U.S. state, territory or possession by the application of the coastwise laws.

Moreover, continuation of a special status for the Virgin Islands has clouded the solution of long-term problems that relate to the transportation of Alaskan crude oil to domestic refineries. In the absence of the Presidential Proclamation envisioned by Section 877, Title 46 USC, at least one foreign-flag, foreign-built large tanker is now being used for the movement of crude oil from the North Slope of Alaska to the Virgin Islands for refining and for trans-shipment therefrom to U.S. ports.

This procedure clearly circumvents the inherent purpose of the Nation's coastwise laws and gives an advantage to the Virgin Islands which the balance of the Republic does not enjoy. In the interest of equity and consistency, the issuance of a Presidential Proclamation bringing the Virgin Islands within the purview of the coastwise laws of the United States and requiring the use of American-flag, American-built vessels in trades between the Virgin Islands

and continental U.S. ports is urged. Alternatively, the enactment of appropriate legislation by the Congress to accomplish the same objective, especially with respect to petroleum and petroleum products, is recommended.

4. Improve Capital Recovery Allowances Under Tax Law for Investment in U.S.-Built Ships

The allowable tax life of a merchant vessel is the most glaring deficiency of the financial incentives package available to owners investing in U.S.-built tonnage when compared to laws and/or practices prevailing in other major Free World maritime nations. Effective tax lives of one to five years are common abroad, and several nations make a distinction in tax treatment between vessels built domestically and those built abroad.* Analysis indicates that a reduction from 14½ years to five years in the depreciable life for U.S.-built vessels, with depreciation commencing with contract signing, would close the gap between total U.S.-flag costs and foreign-flag competition for U.S./foreign commerce without increasing direct subsidy levels.

In the broader context of national economic policy, the growing concern about deterioration of the capital base in the United States and the associated decline in productivity growth has begun to focus attention on the inadequacy of depreciation allowances in the U.S. tax structure. There appears to be considerable opinion to the effect that the tax depreciation approach to reversing this very serious trend is appropriate, and it is accordingly proposed that it be applied to investment in U.S. shipping as well. More prompt tax write-offs will obviously stimulate more rapid reinvestment and result in fleet expansion by operators.

The following changes to the tax laws are recommended to encourage investment in U.S.-flag vessels built in U.S. shipyards:

- Lower depreciable life for tax purposes for U.S.-flag ships built in the United States to five years and in conjunction therewith, permit use of accelerated methods authorized in the Internal Revenue Code.
- Commence vessel depreciation and investment tax credit with contract signing, with requirement that cumulative depreciation during each year of the construction period shall not exceed cumulative progress payments.
- Permit one-time transfer of Capital Construction Fund (CCF) between taxpayers for the purpose of facilitating construction of a specific vessel or vessels in the United States.
- Make full investment tax credit available to qualified CCF withdrawals.

These changes have the potential of promoting the economic and security benefits of capital formation for the betterment of the U.S. shipbuilding and ship operating industries. To the extent that more broadly based capital recovery reform (such as the proposed Jones-Conable Capital Cost Recovery Act of 1979) would accomplish the same capital formation objectives, the enabling legislation would be actively supported by the Shipbuilders Council of America.

5. Restructure CDS and ODS for Bulk Vessels Into Single Per Diem Subsidy Including Capital Element

The Merchant Marine Act of 1970 was enacted with the hope that the construction and operation of liquid and dry bulk vessels under the U.S.-flag would be stimulated. Unfortunately, the intentions of the Congress have hardly been realized.

Under present law, a vessel constructed for domestic (Jones Act) trade, i.e. without Construction Differential Subsidy (CDS), Operating Differential Subsidy (ODS) and Capital Construction Fund (CCF) assistance, is unable to enter U.S. foreign trade because it would obviously not be competitive with other U.S.-flag vessels built with U.S. Government financial assistance, nor would it be competitive with low cost foreign competition. Conversely, U.S.-flag vessels built for the foreign trade which are recipients of the types of government assistance enumerated above cannot enter the U.S. domestic trade without approval of the Maritime Administration and then only for limited periods of time with the provision that CDS and ODS will be rebated to the U.S. government for the time the vessel is employed in the coastwise trade. In addition, the policy of the Maritime Administration has been to permit such domestic operation only under certain restrictive conditions.

This market fragmentation is presently inhibiting investment in U.S.-flag ships, particularly tankers. The age profile of the U.S. domestic product carrier fleet (average 27 years) and the potential effects of strict enforcement of the recently-passed Tanker Safety legislation suggest a need to replace tanker tonnage. On the other hand, there is substantial uncertainty concerning future demand for Jones Act vessels.

The possibility of energy policy initiatives which encourage replacement of U.S. Gulf/U.S. East Coast refined oil product movements with imports, the potential exploitation of the Virgin Islands Jones Act loophole to displace U.S.-flag, U.S.-built tonnage in Alaskan movements and other uncertainties about national policy concerning disposition of Alaskan crude all combine to cloud demand analysis. The ability to move into U.S. foreign tanker trades on subsidy if the present domestic market collapses would substantially alter the risk perception of investing in Jones Act replacement tonnage.

Legislation is proposed permitting qualified owners ordering new liquid or dry bulk vessels from U.S. shipyards to receive a subsidy commitment for the economic life of the vessel payable on a per diem basis for each day the vessel is engaged in non-domestic trades. Structured along the lines of the Russian grain subsidy, it would contain both a capital and an operating element. This new subsidy system would be available to newly-built bulk ships only. No changes would be made with respect to existing unsubsidized or subsidized vessels.

In the long term, this recommendation would have the desirable effect of integrating the movement of rates (although not completely the level of rates) in the domestic and foreign markets. This would tend to moderate the exaggerated disparity between Jones Act and foreign rates that has sometimes occurred. These disparities which merely reflect the proper functioning of supply and demand in separate markets have been widely misused by critics

of the U.S. maritime industry to support unfounded charges of inefficiency.

6. Expand Definition of Term "Qualified Vessel" to Permit Tax Deferred Funds Held in Capital Construction Funds to Be Used for Construction of U.S.-Flag Vessels to Be Operated in U.S. Domestic Trades

Under existing law, tax deferred funds contained in a Capital Construction Fund (CCF) can be used for construction of U.S.-flag vessels to be employed in the foreign, Great Lakes and noncontiguous domestic trades of the United States. The purpose of this recommendation is to permit the use of CCF for construction of vessels in all U.S. domestic trades.

A cumulative balance of approximately $650 million in currently approved Capital Construction Funds could be used toward the construction of new or replacement vessels to meet whatever demand for domestic waterborne service which may develop over the next two decades.

This proposal is compatible with the concept of a per diem subsidy, as set forth in recommendation No. 5, and would accelerate replacement of the aging U.S. domestic fleet.

7. Amend Sections 804 and 805 of the Merchant Marine Act of 1936 so that U.S.-Flag Subsidized Operators May Own and Operate Non-Subsidized U.S.-Flag and Foreign-Flag Vessels in the Bulk Trades of the United States

Section 804 of the Merchant Marine Act of 1936 is designed to prevent U.S.-flag subsidized liner companies from employing foreign-flag tonnage on essential trade routes and thereby creating an unfair competitive situation for other U.S.-flag vessels operating on the same trade routes. Similarly, Section 805 of the Merchant Marine Act of 1936 prohibits a subsidized operator from employing U.S.-flag tonnage, built with CDS assistance, on domestic trade routes to obviate unfair competition with U.S. companies engaged solely in the domestic trade without subsidy. Under present law, waivers of these restrictions are permissible and have been granted by the Maritime Administration in certain circumstances.

Nevertheless, these provisions of law inhibit any expansion of the woefully inadequate U.S.-flag bulk carrier fleet. Sections 804 and 805 should therefore be amended so that the U.S.-flag subsidized operators may own and operate non-subsidized U.S.-flag and foreign-flag vessels in the bulk trades of the United States. This added flexibility could well stimulate bulk carrier construction in U.S. shipyards for U.S. companies owning and operating foreign-flag bulkers which might also want to engage in U.S.-flag operations.

From analysis, it is clear that major U.S. interests with operational experience and financial strength to participate in a meaningful rebuilding of the American bulk shipping fleet are, for the most part, precluded from U.S.-flag operations by virtue of owning foreign registered vessels. This body of knowledge obviously needs to be transmuted to U.S. application and should not be barred by law.

8. Amend Section 905(a) of the Merchant Marine Act of 1936 to Authorize Liquid and Dry Bulk ODS Vessels Unlimited Worldwide Trading with no Abatement of Subsidy

Present law requires that subsidized vessels operate in U.S. foreign trade during a certain percentage of time annually to qualify for ODS. Elimination of this requirement for bulk carriers would give U.S.-flag operators additional flexibility to be competitive on the world scene.

9. Allow Foreign Sale of CDS-Built Vessels After Ten Years of U.S. Operation on Condition Proceeds are Placed in Capital Construction Fund to Construct Replacement Vessels in U.S. within Specified Period

Present law requires retention of subsidized vessels under U.S.-flag for 25 years. Permitting foreign sale of subsidized vessels after ten years would give operators flexibility to replace economically or technologically obsolete vessels and thereby stimulate shipbuilding in the United States.

10. Vessels Constructed for the Account of the United States Government Should be Required to be Built in the United States

Ships built with public funds under the provisions of the Merchant Marine Act of 1936, as amended by the Merchant Marine Act of 1970, must be constructed in U.S. shipyards. By a standing general provision affecting the yearly budget appropriations for the Department of Defense, construction of U.S. Navy vessels in foreign shipyards with public funds is prohibited. In addition, the Jones Act prohibits the commercial operation of foreign-built vessels in U.S. domestic waters.

The combined rationale of these policies is fundamentally to maintain an adequate shipbuilding and support industrial base to serve U.S. national interests. The U.S. Coast Guard, a branch of the Nation's armed services, is not similarly restrained. Its funding legislation does not contain prohibition against the expenditure of public funds in foreign shipyards. In the recent past, foreign yards have been active in soliciting construction of Coast Guard cutters and ice-breakers. Considering the depressed state of the shipbuilding industry in this country and the acute balance of payments problem, there is no justification for expenditure of Federal funds for construction of government-owned vessels in foreign yards, and it is recommended that legislation be enacted to treat all vessel procurements with public monies uniformly: by prohibiting construction abroad.

CONCLUSION

The overriding consideration of the Council's Commercial Shipbuilding Committee has been to advance recommendations which are realistic of attainment, can be promptly implemented with a minimum of statutory revision, will not necessarily require massive outlays of Federal funds, and will enhance opportunities to lower U.S. shipbuilding costs.

They do, however, constitute an integrated, symmetrical package: the suggested elements are mutually supportive. Prompt correction of influences that bear on the present adverse state of U.S. maritime affairs is envisioned. An eventual, orderly rebuilding of a balanced U.S.-flag merchant fleet by U.S. shipbuilders is contemplated. It has, however, become increasingly apparent to the Council's Commercial Shipbuilding Committee during the course of the past 20 months of study that the market, financial and operational problems facing U.S. ship owner/operators must be addressed in concert for a significant new building program to ensue.

These recommendations are likewise not intended to diminish the continuing importance of certain existing policies and programs such as (1) provisions of the Merchant Marine Act of 1920 (the Jones Act) which require operation of U.S.-flag, U.S.-built vessels in U.S. domestic, coastal, intercoastal and noncontiguous trades, and (2) Title XI of the Merchant Marine Act of 1936, as amended, which pertains to the availability of Federal ships mortgage guarantees as a financing incentive for ship construction in the United States.

Nor are these recommendations for change intended to be all-inclusive, as stated earlier. Other segments of the U.S. merchant marine, labor and management, will undoubtedly have separate ideas and perhaps differing thoughts to offer. Liner operators, for example, have already urged action on measures to counter malpractices, to foster fair competition, to achieve parity of regulation and to encourage intermodal rate-making. These and others which are designed to introduce stability and growth in U.S.-flag shipping will have the endorsement and support of the Shipbuilders Council of America.

It is clear that the correlative roles of U.S. ship construction and operation in the U.S. economic and security structure are at best poorly understood and at worst purposely misconstrued. With the view of providing unbiased enlightenment, the Council engaged Data Resources, Inc. (DRI), Lexington, MA to develop a set of econometric tools to quantify, in a consistent way, the costs and benefits to the economy of various policy options for increasing the share of U.S. international commerce transported by ships built and registered in the United States.

As will be seen from the Executive Summary of DRI's findings (Appendix G), shipbuilding in the United States, as opposed to the construction of ships abroad for U.S. registry, produces a substantial positive impact on the gross national product and the balance of payments; moreover, the inherent economic activity results in a net decrease in the Federal deficit and the effects on inflation are negligible.

In conjunction with the U.S. Maritime Committee — composed of major U.S. shipbuilding and ship operating companies — Harbridge House, Inc., Boston, MA, as a part of this activity by the Council's Commercial Shipbuilding Committee, was commissioned for another objective undertaking: to define the facility and manpower dimensions of a required shipbuilding mobilization base under varying market circumstances and war scenarios. Harbridge House, Inc. concludes (Appendix H) that maintenance of a defense industrial mobilization base requires "a program for active national support of the U.S. private shipbuilding industry" without which "the prospects for war deterrence, and American defense effectiveness, will both be jeopardized."

"There can be no employment cutbacks," it is further concluded, if an adequate defense industrial base is to be available under credible contingencies. Yet, an overall decline in U.S. shipyard employment of approximately 66,000 persons, about 47,000 of which will be skilled workers, is forecast over the next several years (Appendix C). Another 200,000 employees in supporting industries and activities will be similarly affected.

Two other projects, jointly sponsored by the Shipbuilders Council of America and the U.S. Maritime Committee, have provided needed background

data. Temple, Barker and Sloane, Inc., Lexington, MA furnished essential trade movement and pertinent ship demand information, and the Center for Strategic and International Studies at Georgetown University, Washington, DC compiled a compact history of U.S. shipping and shipbuilding with particular emphasis on political and economic occurrences which have influenced decision-making since early Colonial days. The latter document will shortly be published in book form by Westview Press, Boulder, CO.

Another examination of influences on U.S. shipbuilding which are not routinely visible must be acknowledged. Conducted by a group of shipyard personnel with long experience, a "Study of Cost of Federal Government Regulation on Shipbuilding Prices" (Appendix I) concludes with convincing analysis that U.S. Government regulations, in the context of domestic practices and domestic shipowners' preferences, "necessitate an average 14 percent (11 percent to 16 percent range), add-on to shipyard costs on a value added (labor plus overhead) basis." The incremental value of these regulatory effects may vary with differing methodology but the existence of additional costs, adjusted in a comparative sense for foreign behavior, cannot, and should not, be ignored in the formulation of national shipbuilding policy.

Nor can the assertions by critics of U.S. shipbuilding, however invalid, imprecise or inaccurate, be ignored. In an endeavor to introduce a sense of balance to "recurring criticisms" of U.S. shipbuilding prices and performances, Appendix J has been included for continuing reference. As will be seen, the shipbuilding industry of the United States, contrary to some prevalent impressions, is hardly second-rate in terms of efficiency and productivity, and, contrary to some widespread misconceptions, the industry must deal with an imbalance of negative economic considerations which are beyond the control of shipbuilders, collectively or individually.

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4. Shipbuilders Council of America, "Merchant Vessels Building or on Order in Private Shipyards," January 1979 (Appendix B)
5. Shipbuilders Council of America, "Shipyard Workload Forecast," April 7, 1978 (Appendix C)
6. U.S. Department of Commerce "U.S. Ocean Policy in the 1970s: Status and Issues," (Washington, DC: U.S. Government Printing Office, October 1978) p. v-48.
   "The loss of jobs in shipbuilding and allied industries and in other sectors of the economy could be substantial and would be concentrated in areas which already face serious employment difficulties. According to Department of Labor data, 16 of the Nation's 20 major shipyards are in areas which now have substantial unemployment.
   "A major loss of jobs in the shipbuilding industry would also seriously affect the employment levels of minorities and women in shipbuilding. A large portion of the recent gains in this area would be lost because of the generally lower seniority of minorities and women in a 'last-in, first-out' labor environment."
7. U.S. Department of Commerce, Maritime Administration, "Report of U.S. Shipbuilding: First Quarter 1979," April 1979 (Appendix D)
8. Appendix E

APPENDICES

APPENDIX A	SUPPLEMENTARY RECOMMENDATIONS
APPENDIX B	U.S. SHIPYARD ORDERS
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APPENDIX A

Supplementary Recommendations

The Council's Commercial Shipbuilding Committee has prepared a supplementary set of recommendations which has also been submitted to the Board of Directors for consideration. These additional recommendations are purposed to stimulate appropriate Council positions on any relevant legislation which may come before the Congress and have these objectives.

- Application of the Buy American principle for "articles, materials and supplies" required in the U.S. construction of vessels for operation in Jones Act trades.

- U.S. documentation of foreign-built vessels for operation on essential U.S. foreign trade routes in only severely limited circumstances: if U.S.-flag, U.S.-built vessel is not available, and then only if concomitant commitment is made to place a definite and precise contract with a U.S. shipbuilder within two years.

- Revision of vessel trade-in procedures and allowances under Section 510 of the Merchant Marine Act of 1936, as amended, to improve economics of, and opportunities for, new construction in U.S. shipyards.

- Amendment to the Outer Continental Shelf Lands Act to require U.S. construction of vessels, rigs, platforms, or other vehicles or structures, used in the exploration, development or production of oil, gas and/or mining resources on the Outer Continental Shelf.

- Possibility of bilateral market sharing agreements with Canada, excluding third-flag participation, predicated on flexible per diem subsidy (see recommendation No. 5 in main text).

- Creation of a modest tax credit to users of U.S.-flag, U.S.-built shipping in foreign commerce.

- Funding of CDS in excess of 50 percent statutory ceiling as national defense features for vessels with sound commercial application which DOD considers essential for national security.

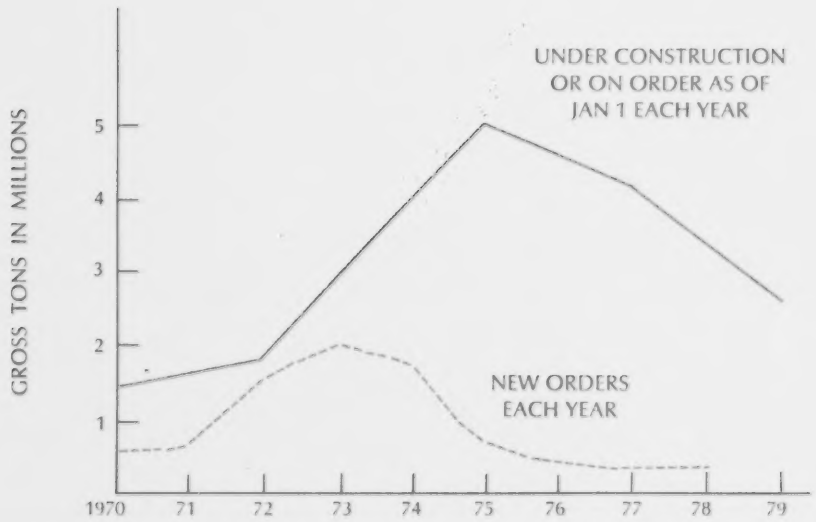
- Elimination of the requirement under Section 1104 of the Merchant Marine Act of 1936, as amended, for interim financing during the construction period.

- Prohibition of foreign-flag "shuttle" tanker operations in domestic waters through amendment to Jones Act or immigration laws.

APPENDIX B

U.S. Shipyard Orders

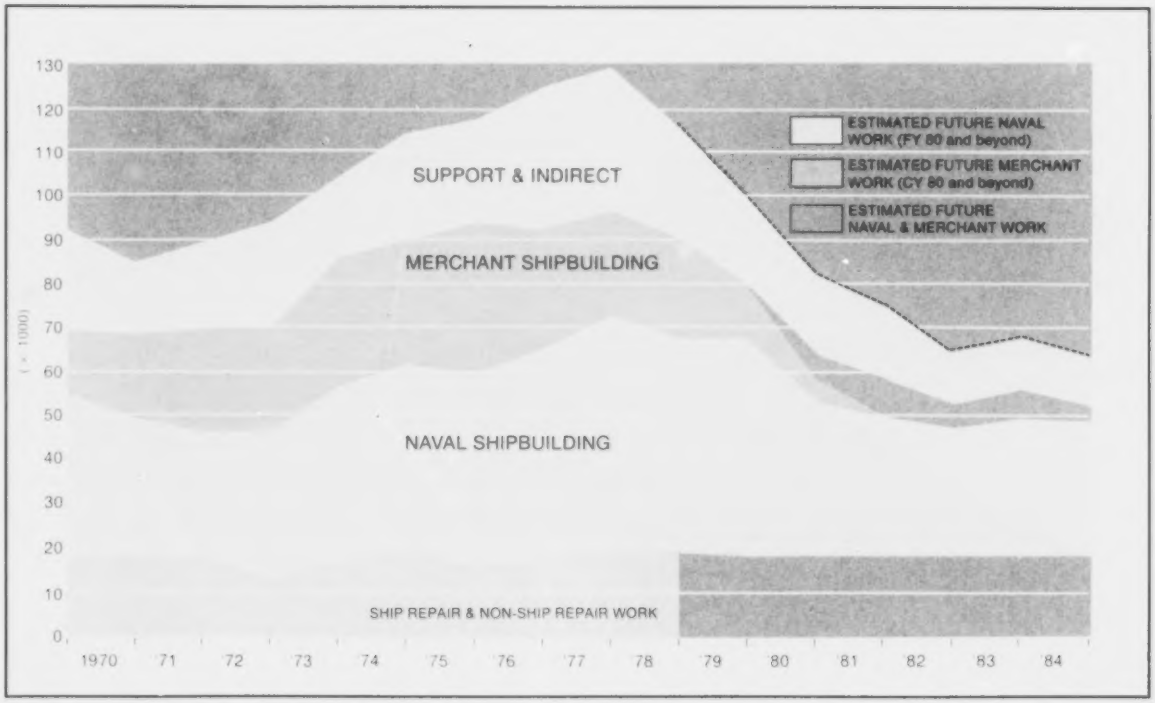
Merchant Vessels Over 1000 Gross Tons Backlog Under Construction or on Order (January 1)			Merchant Vessels Over 1000 Gross Tons Ordered by Calendar Year	
Year	**No. of Ships**	**Gross Tons**	**No. of Ships**	**Gross Tons**
1979	70	2,635,000	—	—
1978	60	3,467,000	30	399,000
1977	72	4,238,000	13	266,000
1976	79	4,647,000	16	339,000
1975	96	5,053,000	14	635,000
1974	97	4,005,000	25	1,766,000
1973	88	2,879,000	43	2,013,000
1972	59	1,819,000	48	1,551,000
1971	49	1,609,000	24	617,000
1970	49	1,399,000	13	580,000



SOURCE: SHIPBUILDERS COUNCIL OF AMERICA

APPENDIX C

EMPLOYMENT TRENDS—U.S. SHIPBUILDING BASE



APPENDIX D

Overview of Total U.S. Shipbuilding Industry

Notwithstanding a surprisingly good year in same areas during 1978, the current year is likely to see a decline in new orders for the U.S. shipbuilding industry, and prospects for substantial improvement in the next year or two are not bright. A downward trend is anticipated for the near-term as present contracts are completed, although long-term contracts, repair and overhaul will provide some stability.

There is no immediate end in sight for the worldwide shipping depression, the climate of uncertainty, and the global overcapacity in shipbuilding. The duration of these phenomena, with their adverse effect on shipbuilding in the United States, is unpredictable. An examination of the situation in the U.S. shipyards reveals that the industry is experiencing a steady decline in new construction business and is facing a depression with multiplying effects throughout the economy. Nine of the Nation's largest shipyards are currently at the point where additional commercial or naval shipbuilding contracts are needed in order to maintain an adequate backlog for available facilities and manpower.

As of April 1, 1979, those yards which specialize in construction of large deep-draft commercial ships had 59 merchant ships totaling 3.0 million DWT under construction or on order. A disturbing fact is that 26 of these ships will have been delivered by the end of 1979 and that new orders will not keep pace with this delivery rate. While some yards are doing well, the overall outlook is not promising. Several major yards desperately need additional contracts during the next year.

It is anticipated that some 26,000 production workers will be laid off during the two-year period 1979-1980; and unless there are major changes in maritime policy or in economic conditions, employment in the industry is expected to remain low during the next five years. With the backlog of merchant ships running out, and with the planned reduction in future naval ship construction, several major yards face possible mass layoffs. The impact on minority works will be especially severe.

U.S. shipbuilding capability has expanded significantly over the past ten years, but much of that capability may shortly be idled because new orders for naval and commercial ships are not materializing at a sufficient pace to utilize available facilities and manpower. The continuation of this downward trend could lead to an irretrievable loss of industry capability and a reduced shipbuilding resource base. Perhaps the most critical consequence of this decline is a possible long-term reduction in the Nation's shipbuilding capacity for mobilization.

Because it must look exclusively to American-flag operators, the U.S. shipbuilding industry, traditionally handicapped by higher costs than its foreign counterparts, has been more vulnerable to the unfortunate combination of developments which brought about the precipitous slump in worldwide construction of new merchant ships. Conversely, because the U.S. shipbuilding industry is the only one in the Free World which has access to a substantial

naval construction program, as well as captive U.S.-flag commercial work, the projected downturn in U.S. shipbuilding will be less severe than that experienced by most shipbuilding nations.

Since the plight of U.S. shipbuilders arises from the worldwide shipping and shipbuilding malaise, real improvement will come only as the world economy recovers.

Source: U.S. Department of Commerce, Maritime Administration "Report on U.S. Shipbuilding: First Quarter, 1979," (April 1979). p. 1-2

APPENDIX E

Tax Policy

This Appendix outlines the tax policy of the major maritime nations with respect to national flag shipping. Table 1 shows the relative ranking of the nations included by total tonnage under the national flag. All the major Free World maritime nations are shown plus a selection of developing countries with aggressive maritime policies.

Tables 2 and 3 rank the attractiveness of the tax environment in each nation as it applies to shipping investment in relatively straightforward ways. Table 2 orders countries by depreciable life and gives detail on acceleration methods and other information on the tax environment. Table 3 details first year depreciation, predelivery and bonus depreciation and tax credits in each country.

A single ranking of the total impact of tax policy as a promotional device for national flag shipping investment is difficult because it is influenced by numerous factors including tax rates, whether investors tend to be individual or corporate, timing of depreciation allowances and tax credits and the time value of money. This last concept is based on the principle that money becomes less and less valuable the farther in the future it is received. It provides a means to compare the total impact on the investor of the tax treatment accorded shipping in each country. The methodology is as follows:

a. Since only tax policy is being evaluated, capital and operating costs are assumed to be equal. A nominal investment of $100 is assumed and a stream of revenue after operating costs of $14 per year over a 20 year vessel life is assumed.

b. This revenue stream is then taxed at the rate for corporate investors in each country after taking the applicable tax credits and depreciation allowances.

c. The resulting after tax income stream is then discounted to the day of delivery of the vessel using standard discounting procedure. The appropriate discount rate is the investor's required rate of return on the total investment. In general this will range between 11% and 15% depending on the investor's perception of risk in the specific ship. A rate of 13% is used in this analysis.

Table 4 shows a rank ordering of the countries considered as a result of this analysis. Investors in countries which show a present value greater than

$100 would realize better than a 13% return from the theoretical $100 investment. But a more valuable way of using the table is to measure the difference in revenue stream after operation costs required by an investor in each country to realize the same rate of return. For example, the present value of the U.S. investment (99.1) is about 89.2% of the present value of the Liberian investment (111.1). This means that the Liberian can accept a revenue stream 89.2% of that required by the U.S. ship and still realize the same return on investment.

A few general observations are in order:

1. Contrary to popular belief, the most attractive tax package is *not* the total exemption from taxation allowed by the so-called "flag of convenience" nations. Most of the developed countries use tax policy as a powerful incentive to invest in shipping. Most countries with major national flag maritime interests have a tax environment more conducive to shipping investment than that of the United States.

2. In addition to the important present value effect, rapid tax writeoff stimulates reinvestment to shelter income from written-off tonnage.

3. Recognizing the importance of the shipbuilding industry to their economies, a number of countries (e.g. Canada, South Korea, Brazil) provide more attractive tax treatment of vessels built domestically than for those built abroad.

4. Several countries allow depreciation of vessels during the building period rather than commencing when the vessel is delivered. The present value effect of this policy is very high and should be considered along with reduction of tax depreciable life.

5. The tax law of several countries (e.g. Denmark) promotes cross trading by allowing a more favorable tax treatment for national flag ships trading between foreign ports.

CONCLUSION

Revising the U.S. tax allowance policy to bring it into line with that prevailing in other developed countries with important maritime interests will significantly improve the attractiveness of U.S. flag shipping investment.

TABLE 1

Selected World Merchant Fleets

Country	Tonnage (Million DWT)
Liberia	157.8
Japan	62.5
Norway	52.6
United Kingdom	51.1
Greece	49.8
Panama	31.3
France	20.8
Italy	17.9
United States	17.3
West Germany	14.6
Spain	12.2
Sweden	12.0
Singapore	11.9
India	8.9
Denmark	8.3
Netherlands	7.7
Brazil	5.6
South Korea	3.7
Belgium	2.5
Taiwan	2.3
Australia	2.0
Canada	0.9
Venezuela	0.8
Ecuador	0.3
Total	**554.8**

Source: Maritime Administration data published December, 1978.

TABLE 2

Ranking of Countries by Depreciable Life[1]

Country	Effective Depreciable Life [2]	Depreciation Method [3]	Maximum Corporate Tax Rate	Maximum Individual Tax Rate
United Kingdom	1	N/A	52%	83 %
Denmark	3	100% DB	36% [4]	66.6%
Sweden	3	100% DB/SL	54%	83 %
Canada	3	SL	51%	66.6%
Taiwan	2 or 5	See note 5	35%	60 %
Brazil	5	SL	30%	50 %
Italy	6	See note 6	36%	72 %
France	6	250% DB/SL	50%	60 %
Belgium	8	See note 7	48%	71.5%
Spain	9, 10	100% DB	33%	40 %
Ecuador	10	SL	22%	62.2%
Venezuela	10	SL	55%	45 %
Norway	11, 12	SL	51% [4]	70 %
Japan	13, 15	200% DB	54%	80 %
West Germany	12, 14	SL or 250% DB	56% [8]	55 %
United States	14.5	200% DB/SYD	46%	70 %
South Korea	15	200% DB [9]	27%	87.5%
India	15	SL	55%	69 %
Australia	16	150% DB/SL	46%	61.5%
Netherlands	20	200% DB	48%	72 %

1 Countries that do not tax shipping income under any condition are excluded: Liberia, Panama, Greece, Singapore.

2 Including allowable bonus depreciation and switchover of depreciation methods. In countries using declining balance methods for the life of the vessel, the life shown is the guideline life used to compute the declining balance fraction. Minimum depreciable lives are given in all cases where a range is specified under applicable law. Also, effective depreciable life is measured from the year of vessel delivery.

3 Abbreviations used:

SL: *Straight line depreciation:* A method of depreciation in which the annual depreciation deduction is determined by dividing the original cost of an asset by the number of years the property will remain in service.

DB: *Declining balance depreciation:* A method in which the annual depreciation deduction is determined as a percentage of the net tax basis of the assets; the percentage is equal to the reciprocal of the lifetime. If 150%, 200% or 250% declining balance depreciation is available, the result is multiplied by 1.5, 2.0, or 2.5, respectively, to compute the deduction.

SYD: *Sum of the years digits:* A method of depreciation whereby the annual depreciation is determined by multiplying the original cost of the asset by a fraction. The denominator is sum of the digits from 1 up to the depreciable life, e.g 1 + 2 + 3+ 4 for an asset with a 4 year life. The numerator is determined by counting backward starting with the asset's useful life. Hence, the fractions for an asset with a 4 year life would be 4//10, 3/10, 2/10, 1/10.

Two methods separated by a slash (/) indicates switchover permitted.

4 Denmark and Norway tax shipping income at ½ the normal corporate rate if revenue is derived from crosstrading.

5 Five (5) year depreciation if Owner takes five (5) year tax holiday; three (3) years otherwise.

6 Normally 25/25/25/10/10/5

7 Normally 20/15/15/10/10/10/10/10

8 Shipping company profits in Germany taxed at special rates: 33.6% if undistributed.

9 Additional 50% of normal depreciation allowed in first five (5) years.

TABLE 3

Ranking of Countries by Total First Year Depreciation Allowed

Country	Total First Year Depreciation	Normal First Year Depreciation	Bonus Depreciation	Investment Tax Credit
United Kingdom	100%	100%	—%	—%
Japan	59.3	14.3	45	—
Sweden	51 [1]	21	30	—
Denmark	51 [2]	21	30	—
West Germany	45 [3]	5	40	—
India	37.5 [4]	5	25 + 7.5	—
Canada	33.3	33.3	—	—
Norway	33 [5]	8	25	—
France	31.3	31.3	—	—
Taiwan	25	25	—	—
Italy	25	10	15	—
Belgium	20	20	—	—
Brazil	20	20	—	—
South Korea	18	18	—	8–10
United States	13.8	—	—	10
Spain	10.5	10.5	—	—
Netherlands	10	10	—	15
Ecuador	10	10	—	15
Australia	9.4	9.4	—	—
Venezuela	7	7	—	15

1 Bonus depreciation in Sweden may be taken during construction period commencing with contract signing.
2 Bonus depreciation in Denmark limited to 15% per year for two (2) years may be taken commencing with contract signing.
3 An amount equal to progress payments may be claimed during construction period up to the total of the bonus depreciation allowance.
4 India permits a special capital deduction equal to 7.5% of the remaining asset basis for the first five (5) years. This special allowance does not itself reduce the tax basis.
5 Bonus depreciation in Norway may be taken during construction period.

TABLE 4

Ranking of Countries by Net Value to the Investor of Tax Policy

Country	Present Value of After Tax Cash Flow (13% Rate of Return)
Korea (trading to foreign ports)	121.1
Ecuador	119.0
Flags of Convenience	111.1
Greece	111.1
France (foreign source revenue)	111.1
Brazil (foreign source revenue)	111.1
Denmark	107.5
Taiwan	106.2
United Kingdom	105.2
Sweden	103.5
Norway	102.7
Brazil (non-foreign source)	101.6
West Germany	100.5
Italy	101.1
Canada	101.1
Japan	99.7
United States	99.1
Venezuela	98.7
Netherlands	98.3
France (non-foreign source)	96.9
Venezuela	93.0
Belgium	92.8
Spain	91.0
India	86.6
Australia	84.3

APPENDIX F

Example of How Bilateralism Would Function in a Specific Trade Context

Trade: Crude oil and petroleum products from Mexico to the United States.

Background: Oil production in Mexico is expanding rapidly with announced target exports by 1982 of 1.1 million barrels per day. In the absence of a complete breakdown in U.S. foreign policy, 65 percent of these exports could reasonably be expected to reach the United States. Mexico's exportable surplus could easily exceed 2.5 million barrels per day by the mid-1980's. Mexico has also announced intention to export refined products as well as crude, and will shortly be in a position to move either crude or product from both the East and West Coasts of Mexico. The Mexican tanker fleet is small and fully committed, and it is reasonable to expect that the nationalized oil structure will wish to expand the Mexican-flag carriage of expanding exports, either through government action or encouragement of private interests.

SUITABILITY OF BILATERAL MARITIME APPROACH

1. Both countries have a mutual national interest in expanding fleets for foreign commerce.
2. Centralized decision-making in Mexico should facilitate implementation on that end.
3. Proposed tax rules revisions (see recommendation No. 4) should permit U.S. vessels to compete at, or very close to, long-term world market rates for tonnage in the class suitable for Mexico/U.S. trading. The fact that Mexican crewing is more expensive than typical flags of convenience crewing may, from the Mexican point of view, justify slight premium rates in the bilateral shares of the trade.
4. The envisioned bilateral agreement should be targeted at the growth in the trade in which event no existing third-flag tonnage would be displaced.

ANCILLARY BENEFITS

1. Vessels suitable for the Mexico/U.S. trade would primarily be handy-size product tankers, capable also of carrying crude. This is the most valuable type of tanker tonnage from a defense viewpoint.
2. Such vessels, built to the new Tanker Safety Act standards, are likewise ideal for service in the U.S. domestic coastal market. The proposed revised method for providing both capital and operating subsidy on a per diem basis (see recommendation No. 5) would allow vessels in this and other short haul subsidized tanker trades to forego subsidy and move quickly to supplement the base domestic fleet in times of market strain or strategic crisis (such as a call-out of the Strategic Petroleum Reserve).

DEMAND CREATED BY BILATERAL AGREEMENT

Assumptions: (1) Mexican exports to the United States (derived from recent

staff report of Senate Committee on Energy and Natural Resources): 715,000 barrels per day in 1982 and 1,625,000 barrels per day in 1985; (2) Transportation share to each trading partner under bilateral target proposal (see recommendation No. 1): 20 percent; and (3) Destination distribution: 50 percent to U.S. Gulf Coast, 25 percent to U.S. East Coast and 25 percent to U.S. West Coast.

Under these assumptions, tanker tonnage demand would equate to 205,000 dwt (about 4-6 ships) in 1982 and 470,000 dwt (about 10-12 ships) in 1985.

Summary: Many U.S./foreign trades with characteristics similar to the Mexico/U.S. petroleum trade can be readily identified. These potentials are especially fertile among U.S. developing trading partners where trade is growing, the trading partner is moving to develop its own merchant marine, and vessels to be constructed are of high defense value. Detailed trade analyses (performed by Temple, Barker and Sloane, Inc.) indicate that conforming the initial bilateral thrust to situations selected with such parameters in mind should provide timely opportunity for a satisfactory beginning to a reversal of the Nation's presently moribund shipping and shipbuilding policies.

APPENDIX G

Executive Summary — Data Resources, Inc.

This report presents the results of an extensive study by Data Resources, Inc., of the economic impact of the shipbuilding and ship operating industries on the U.S. economy. This analysis employs a system of models designed specifically to evaluate alternative maritime policies. The system is based on the DRI input-output model and macroeconomic model of the United States. These models are widely used throughout industry, the financial community and government for policy analysis. DRI believes that this system of models and the resulting analysis embody the most comprehensive and sophisticated approach to measuring the economic impact of maritime policy alternatives ever undertaken. The system is unique in its ability to assess not only the national impact on GNP, investment, balance of payments and inflation but also to pinpoint the effect on specific industries and geographic areas.

The system can be employed to evaluate alternative assumptions concerning: (1) U.S. fleet size; (2) whether the vessels are constructed in the U.S. or abroad; (3) whether the vessels are financed in the U.S. or abroad; (4) availability of various tax and subsidy packages. Hence the system has the potential to provide a vehicle for more comprehensive evaluation and more informed debate on the relative merits of alternative policy decisions.

The approach taken has involved modifying the DRI input-output model to provide additional detail on the inter-industry impacts of constructing four basic commercial ship types and nine basic naval ship types. Extensive data were collected from shipyards and the Maritime Administration to perform

this modification and to establish the regional patterns of purchases from supplying industries.

The input-output model was linked to the DRI macroeconomic model of the United States. The macromodel consists of over 800 behavioral equations for variables such as business investment, consumer spending, government receipts and expenditures, wages, corporate profits, major price indices, imports and exports and interest rates. These equations relate each variable to important explanatory factors. All of the equations are linked together so that the changes imposed in one area will be carried throughout the economy. For given maritime policy alternatives, the macromodel is adjusted for first round changes in the balance of payments, domestic investment, federal subsidy levels and similar considerations. The macroeconometric model then calculates the net economic impact, which is disaggregated by the input-output model to obtain industry detail, which in turn is used to calculate regional impacts.

This report focusses on two alternatives to no change in the present maritime outlook. The first examines results of a significant expansion of the U.S. commercial and naval fleets over the next ten years compared with status quo projections. The first analysis assumes that both commercial and naval vessels are built in the U.S. The second analysis compares the impact of domestic versus foreign construction of the vessels required to permit the expansion of the U.S. flag commercial fleet.

Expanded Navy and Commercial Program

The forecasts of the expanded U.S. operating fleet employed in this study follow from projections developed by Temple, Barker and Sloane, Inc. (TBS) for the Commercial Shipbuilding Committee of the Shipbuilders Council in the report *Analysis of Future U.S. Merchant Fleet Shipbuilding Requirements 1980-1990* dated March 19, 1979. These projections are based upon the attainment of specific bilateral trade shares. The base case used in this analysis is intended to represent the ship construction activity which can be expected to occur under current conditions and in the absence of any changes to current maritime policy. The limited bilateral scenario compared to the base case translates into approximately 300 additional U.S.-built, U.S.-flag ships over the 1980-1990 period. The construction and operation of these ships results in first round changes in imports, subsidies and U.S. investment.

The base case naval scenario is the building plan which was contained in the April-May versions of the Administration's FY 1980 budget request. The high level building plan is predicated on a program developed by the Shipbuilders Council which anticipates a five-year naval ship construction activity greater than the presently forecasted 67 ships.

The fleet assumptions provide the basis for the changes in military expenditure and private investment employed in the macroeconomic analysis. It is also assumed that current subsidy programs, specifically CDS and ODS, are extended to the expanded commercial fleet. The larger U.S.-flag fleet also results in a first round reduction in the balance of payments outflows for foreign shipping services. The impact of this scenario on the economy was

calculated for two alternative sets of government spending assumptions. In Case I first round government expenditure increases due to military and subsidy outlays. In Case II first round expenditures are held constant by reductions in other spending categories. Both scenarios have been compared to DRI's March 1979 long term forecast, which is the baseline economic forecast for the 1980-1990 period.*

Macroeconomic Results

The aggregate economic impacts of the expanded shipbuilding and operating scenario with no government spending offset are summarized below. Results for GNP, investment, inflation, the balance of payments and the Federal deficit are included. These impacts are discussed in terms of deviations from the baseline forecast.

- The expanded shipbuilding program increases the pace of economic activity over the baseline throughout the period. The cumulative increase in GNP expressed in 1978 dollars is $64.5 billion. The peak yearly impact of $10 billion occurs in 1985.

- Investment in the shipping industry increases output levels and required investment in supplying industries. On the national level this translates into $15 billion additional investment in producers' durable equipment.

- The alternative scenario has little impact on the rate of inflation. The implicit price deflator for GNP averages .1% higher with this program.

- Non-merchandise imports are reduced directly by the substitution of domestic for foreign shipping services. By 1990 non-merchandise imports are 1.7% below the baseline and net exports in current dollars are almost $3 billion above the base.

- In addition to the direct increase in military spending and maritime subsidies there is an induced increase in both tax receipts and expenditures, however expenditures rise more. The nominal deficit is $35 million higher in 1985. The gap increases to $1 billion in 1987 and $4 billion by 1990.

- Case II with spending offset is a less expansionary scenario than Case I in which government spending increases in the first round. GNP, inflation, and investment change in the same direction but the magnitudes are smaller. The net export position improves more. The impact on the deficit differs significantly from Case I. Although Federal Government expenditures are unchanged in the first round both tax

* This is a stable simulation which incorporates a return to a period of full employment and an absence of external shocks after adjustment to short term events. A recession begins in late 1979 brought on by high interest rates, inflation and other imbalances in the economy. Economic growth resumes in 1980 but inflation continues to be a problem. Renewed monetary restraint slows down the pace of economic activity from mid 1981 through 1982. From 1982 through 1990 there are no external shocks to the economy such as the oil and food price increases of the 1970's. Economic growth resumes, financial and inflationary pressure ease. The economy settles down on a smooth high employment growth path for the remainder of the forecast period.

receipts and expenditures rise subsequently. The higher tax receipts outweigh added expenditure resulting in a lower deficit. In 1990 the reduction is $3.7 billion.

Interindustry Results

The economic impact of the expanded shipbuilding program on specific industries is given by the input-output analysis. The following industries are among those most directly affected by the combined commercial and naval program: Fabricated Plate, Steel Mills, Turbines and Engines, Ordnance, Maintenance and Equipment and Valves.

- In the case of the expanded program with no government spending offset output increases by the following amounts in billions of 1972 dollars.

Steel Mills	$5.1
Fabricated Plate	2.2
Turbines and Engines	1.5
Ordnance	.9
Telecommunications Equipment	.3
Maintenance and Equipment	1.9
Valves	1.4

- The corresponding increase in the number of man years of employment over the base is:

Steel Mills	90,800
Fabricated Plate	66,000
Turbines and Engines	35,500
Ordnance	39,800
Telecommunications Equipment	9,900
Maintenance and Equipment	69,000
Valves	51,700

Regional Results

Total sectoral outputs and employment were distributed to the various states using information on the geographical location of suppliers of major inputs purchased by shipbuilders. An examination of the regional changes in output and employment indicates that the maritime industry impacts certain regions disproportionately.

- California has the largest increase in output and employment under the current scenario. California's output rises $16 billion in 1972 dollars. An additional 528,600 man years of employment are created.

- New York benefits from a $12.5 billion increment in output and 347,000 man years of employment.

- A number of states supplying inputs to shipyards are included among the 10 most affected states. Illinois, Ohio, Michigan and New Jersey are among these.

Comparison of the Limited Bilateral Scenario With and Without CDS Program

The methodology described above was employed to analyze the impact of a more specific proposal, the elimination of the CDS program. The results presented below compare two scenarios. In both cases the expanded naval and commercial shipbuilding program is postulated. In the first case the ships are constructed domestically. In the first round the increases in military spending and subsidies are completely offset by reductions in other areas so that the level of government expenditure is unaltered. The reductions were made equally to transfers and purchases of goods and services. In the limited bilateral scenario with no CDS the level of commercial construction falls due to the elimination of CDS. It is assumed that all ships for the U.S. foreign trade included in the TBS scenario are built abroad. U.S. imports are increased accordingly. Subsidy payments are reduced by the full value of CDS payments. The savings are reallocated as in case one so there is no change in the Federal budget in the first round.

Macroeconomic Results

The results presented show the impact of constructing the 300 commercial ships abroad instead of in the U.S.:

- Lower domestic investment and the higher import bill combine to lower the overall level of economic activity. The cumulative reduction in GNP in 1978 dollars over the 1980-1990 period is $15.3 billion.

- There is little difference in the inflation rates in the two scenarios. Elimination of the CDS program reduces the annual rate of inflation by an average of less than .1%.

- The substitution of foreign built ships for domestic construction reduces output levels and required investment in related industries. On the national level this translates into a reduction in fixed investment of $19.8 billion (1978 dollars) over the period.

- Capital goods imports increase in the CDS elimination case. This causes a deterioration in the U.S. balance of payments and pressure on the exchange rate. Net exports (exports-imports) are reduced over the entire period.

- The elimination of CDS reduces the maritime subsidy outlays of the Federal government. Taken in isolation this has the effect of reducing the Federal deficit. When the direct and indirect effects of this proposal on the economy are taken into account the deficit is slightly higher in the case of CDS elimination. Even though outlays fall tax receipts fall more.

Interindustry Results

The following industries are among those most affected: Steel Mills, Turbines and Engines, Valves, Fabricated Plate, Joiner and Pumps.

- The figures presented below in column one represent reductions in outputs in billions of 1972 dollars. Corresponding reductions in em-

ployment are in column two.

Steel Mills	$3.9	68,800
Turbines and Engines	1.6	36,000
Valves	1.1	39,200
Fabricated Plate	.9	27,500
Joiner	.3	9,800
Pumps	.7	22,000

APPENDIX H

Executive Summary — Harbridge House, Inc.

The following report was commissioned by the U.S. Maritime Committee, a group comprising the major American shipbuilding and ship operating companies. It presents an assessment of the U.S. private shipbuilding industry's adequacy as a mobilization base and as a support to sealift in any future war.

The U.S. Maritime Committee believes that research on these questions is necessary, since little information is available on the extent of future demands for shipbuilding capacity. Information gaps exist despite the required assessment of shipbuilding as a mobilization base under Section 502 of the Merchant Marine Act of 1936, the creation in 1970 of a Joint MarAd-Navy Shipbuilding and Repair Committee with mobilization-base assessment as one of its tasks, and a major review of mobilization requirements in the U.S. shipbuilding and ship repair industry conducted by a joint Department of Commerce/Department of Defense study team in 1977.

In preparing this report, Harbridge House, Inc., has carried out analyses in the seven areas described below:

- Five credible war scenarios were developed from unclassified sources.
- Shipyard support requirements were developed for a nonnuclear NATO war. This is the scenario in which the Nation's sealift capacity would immediately become most extended.
- Support requirements were transposed into quantitative terms for a war hypothetically initiated in 1985.
- The U.S. private shipyard support capacity for 1985 was projected, assuming continuation of forecasted trends.
- The extent of likely deficiencies in physical and/or human resources was established.
- Sample programs were identified for efficient reduction of the gap between war-related logistic needs and the shipbuilding industry's forecasted capacity.
- The fiscal consequences of ensuring shipyard industrial base maintenance were established through use of regional income and product account "multipliers" and the revenue elements of a fiscal "tax expenditure equation."

In making these analyses, Harbridge House applied elements of the Ownership Mix Analytic System (OMAS), which members of the project team developed for the Office of the Secretary of Defense and subsequently applied under contract to the U.S. Navy.

As a supplement to the analyses, the report presents descriptions of the structure of the U.S. shipbuilding industry, its recent history, and its apparent future prospects. Attention is also directed to public policy aspects of defense industrial base (DIB) maintenance in the U.S. private shipbuilding industry. Here the discussion centers on alternative ways to satisfy Congress' intention of ensuring that an essential nucleus of industrial facilities and equipment be available as needed for national defense purposes.

A. Limitation of Subject Coverage

There are numerous issues which have impact on defense industrial base maintenance in shipbuilding which have not been examined in this report. In our judgment, their exclusion in no way affects our findings. In fact, in all probability they would serve to reinforce the conclusions presented below. Demanding attention but lying outside the present scope, important supplementary issues are:

- At what point will declining naval and commercial new construction programs jeopardize the shipyard DIB's ability to provide adequate support to naval *and* merchant ships in a future non-nuclear war? (We assume below that recent 1979-1984 Navy and MarAd plans and forecasts will be realized. This may be optimistic.)

- Is it prudent to overlook the existence of continuing erosion in the base of shipbuilding component suppliers when planning for national defense? (We focus below on the first 90 days of nonnuclear war. During this period, prime dependence must be placed on ships and stocks in inventory — but what about later time periods?)

- Where are the crews to come from to man a major sealift? (Efficiencies in ship operation, and reduction of the U.S. Merchant Marine, mean that the nation no longer can draw on a reserve of trained, available seagoing personnel. A breakout and sealift requirement equal to Vietnam's can no longer be manned by U.S. merchant seamen.)

More fundamental than any of these issues are two interlinked questions. These were addressed in the report in terms which were adequate for the study's purpose, but by no means as fully as their strategic nature merits:

- What is the minimum threshold of resource commitment which must be made to ensure national security?

- Is such a level sufficient to act as a war deterrent by imposing unacceptable risks on Warsaw Pact military forces?

This second question bears directly on the findings reached in this report. The nonnuclear NATO war scenario used for determining shipyard support requirements is credible. Also credible is the possibility that outbreak of such a war might touch off complementary conflicts in East or Southeast Asia, the

Indian Ocean, or the Middle East and involve the United States. In such an event, the U.S. private shipbuilding industry's capacity would become much more stretched than is shown below.

B. Research Findings

1. Of the five credible war scenarios considered, a nonnuclear conflict between NATO and the Warsaw Pact powers carries the greatest apparent requirement for mobilization and logistic support by U.S. private shipbuilders.
2. The most critical short-term dimension of NATO war support will be the conduct of reserve fleet breakout after M-Day and the provision of casualty and battle-damage repair between D-Day and D+90. A protracted NATO conflict might reinvoke World War II's "bridge of ships" requirement. However, without ability in the private shipyards to perform initial breakout and repair functions, there will be no successive requirement for massive sealift in support of European operations.
3. A critical component of the private shipyard mobilization base is its drydock capacity. The 65 to 68 dry docks that the 37 coastal shipyards are able to assign to merchant sealift breakout and repair activities are more than adequate to meet the national defense needs. Each one of the DIB dry docks measures at least 475 feet x 68 feet. These dry docks are of suitable minimum dimensions, not only because of the size distribution of world merchant fleets, but also because these dimensions are those of the smallest ship planned for mass production in a mobilization effort.
4. A total of 47,400 production workers was available for assignment to merchant sealift breakout and damage repair work in the 37 coastal shipyards in 1978. This amounted to approximately 27 percent of total private shipyard employment. The remaining 73 percent, employed in both public and private shipyards, were primarily engaged in activities supporting the U.S. Navy.
5. By 1985, the manpower base available for breakout and repair of merchant vessels is projected to decline to about 37,800 production workers. This equals a 20 percent work force reduction and limits the shipyard DIB's ability to support both naval and merchant fleets.
6. Assuming that M-Day occurs 30 days before D-Day, 27 Atlantic and Gulf Coast shipyards will be required to break out 139 Ready Reserve Fleet (RRF) or National Defense Reserve Fleet (NDRF) ships. Over the period M-Day to D+90, these yards will have to repair 246 casualty or battle-damaged vessels.
7. During the period M-Day to D+90, Pacific Coast shipyards will be required to break out 79 RRF or NDRF ships and repair 80 casualty or battle-damaged ships.
8. Expeditious accomplishment of these requirements will be impossible, if projected employment cutbacks are made in the U.S. private shipyards which provide DIB maintenance capacity for merchant vessels. However, the exact dimensions of likely performance shortfall are in dispute.
9. A number of MarAd analyses assume that timely breakout of NDRF ships will require 45 percent less time, on a per-ship basis, than does an

apparently authoritative, empirical study of breakout performance requirements which was performed under MarAd contract in 1976. If MarAd's "optimistic" assessment is accepted, a total of 18,500 man-years of incremental employment must be ensured through 1985 for DIB maintenance purposes. If the "pessimistic" assessment is correct, there can be no employment cutbacks at all. The current work force of 47,100 production workers must be maintained. To accomplish this during the period 1980 to 1985, incremental employment totaling 36,900 man-years must be provided.

10. Employment deficiencies can be cost effectively overcome through initiation of a 1980 to 1985 program involving construction of five to ten MULTI-PURPOSE mobilization ships and five to ten 40,000 to 50,000 DWT tankers, as well as the upgrading of 66 to 104 NDRF vessels to RRF status. This is one of several available programs for shipyard DIB maintenance.
11. In addition to providing the required shipyard labor identified in the report, the upgrading of a merchant vessel from NDRF to RRF status provides the United States with a more valuable ship. Necessary maintenance is done at a deliberate pace, response to mobilization is shortened, and a readier ship is delivered.
12. The outlay cost of this program will be between approximately $936 million and $1.867 billion through 1985 (in 1979 constant dollars). However, after "multiplier" and "tax expenditure" effects have been added, the net fiscal cost will be only 68 percent of outlay. The cost of maintaining the defense readiness of U.S. private shipyards through 1985 thus equals a net fiscal cost of $636 million to $1.269 billion, or approximately $106 to $212 million per year.

C. Public Policy Considerations

The program described above is one of austere dimensions suitable to the needs of the first 90 days of a nonnuclear NATO-Warsaw Pact conflict. However, the program may be inadequate when viewed against a war scenario of more than 90 days duration. To prepare for a "long" war, it may be desirable to substitute another type of reserve, dry-cargo ship for the NDRF's fleet of obsolete World War II Victory Ships (VC-2s). If initial reserve shipping can be ensured through war charters from the world's active merchant fleets, cost-effective programs for shipyard DIB maintenance during 1981 to 1985 might change as follows:

- A program for improving the quality of RRF ship types might be undertaken. The fiscal cost of this program would probably be greater than that of the austere program outlined above.
- A program for increased production of MULTI-PURPOSE mobilization ships might be initiated in order to enhance the U.S. Army's ability to enter into offensive actions as soon as the initial westward thrust of Warsaw Pact forces had been blunted during a NATO war. The fiscal cost of this program would again be greater than that of the austere program outlined above.
- Statutory reforms might be carried out in order to shift much of the

incidence of shipyard DIB maintenance costs from the Federal budget to peacetime shipping services. The 1977 Naess proposal for U.S. flag fleet expansion by the oil companies and the extension of the Jones Act (cabotage) to Virgin Islands petroleum shipments are examples of available options. Since either of these would stimulate operations by U.S. registry ships, they would tend to create new work orders for private shipyards in the DIB.

Each of the alternatives listed above demands consideration as a means of securing the Nation's defense in wartime. Each also warrants attention as a method of sustaining high employment in economically impacted areas. In the final chapter of this report attention is drawn to the strategic parity implications of a national program for ensuring maintenance of the private shipyard DIB. Such a program might have deterrent effects as well, since the use of military force to achieve political ends tends to diminish in attractiveness as the likelihood of the military's success in securing its objectives becomes increasingly uncertain.

Since the NATO nations are divided by the seas, control of the sea-lanes is essential for national defense. This is clearly recognized by the Warsaw Pact powers, which have invested heavily in the development of Blue Water naval fleets despite their entirely land-based internal communications.

APPENDIX I

Study of Cost of Federal Government Regulations on Commercial Shipbuilding Prices

Preliminary Summary and Conclusions

Government regulations at the Federal, State and local levels proliferate at a virtually incalculable rate. They affect every business in the United States, large and small. They most adversely affect those industries competing with foreign products not similarly encumbered with a costly regulatory and enforcement structure. The U.S. shipbuilding industry is believed to be one such industry.

Of pertinent interest, the Commission on American Shipbuilding stated in its 1973 report to the Congress and The White House:

> "Analysis of the philosophy, practices, related laws and standards of the three leading shipbuilding nations in the world, and others who are ahead of the United States shipbuilding industry in tonnage on order, etc., indicate that they are not now adversely impacted or competitively disadvantaged in the world market place by legislation parallel to that which has affected the United States. Globally the United States has promulgated the most stringent and demanding policies for environmental considerations, and the related worker protection/welfare assistance programs that impair our ability to have a parity with our foreign counterparts."

To place the findings of the Commission in current perspective, the Shipbuilders Council of America, with the cooperation of five member companies,

undertook a study to provide a current assessment of the cost of Federal Government regulations on shipbuilding prices.

These companies responded to a survey questionnaire based on "best professional judgments and state-of-the-art techniques" to estimate the probable increase in internal shipbuilding costs resulting from U.S. laws, regulations and practices pertaining to (a) technical features of ship construction; (b) employee's fringe benefits; (c) workplace safety and health requirements; (d) environmental protection standards; and (e) administrative and reporting functions. A hypothetical 56,000 dwt tanker estimated to cost $45 million was used as a model.

From an analysis of survey returns, it has been concluded that U.S. Government regulations necessitate an average 14 percent (11-16 percent range) add-on to shipyard costs on a value added (labor plus overhead) basis. It is believed these figures are conservative and quite likely understated. For example, the 14 percent increase in value added cost does not include $651,000 in incremental cost for the hypothetical ship represented by additional material, required by U.S. laws and regulations, which is considered to be in excess of good shipbuilding practice.

Estimates submitted by the participating shipyards were sufficiently compatible for purposes of averaging and the "Summary of Estimated Cost Impact of Selected U.S. Laws and Regulations" in Exhibit A, in the judgment of the participants, reasonably represents an order of magnitude of the cost impact applicable to all U.S.-built ships.

These conclusions have an even more dramatic significance when taking into account the measurable fact that 45-55 percent of a vessel's price is comprised of the cost of steel and components purchased by the shipyards. These items are not covered by this study, but obviously, the regulatory impact on that portion of a ship's price, though not precisely established at this time, will raise the ship's cost considerably.

It is evident from this study that the ever-increasing costs of requirements, regulations and standards, imposed upon U.S. shipbuilders by Congressional-enacted statutes or administrative edict, contribute, in a substantial way, to the higher cost of ship construction in the United States as compared with the balance of the world. These relative costs are, of course, accentuated by the present-day practice of foreign shipbuilders in offering to build ships at prices below costs.

It needs to be pointed out that the conclusions herein stated need to be equated, in a comparative sense, with the cost of government regulations which may prevail in other shipbuilding nations of the world. No attempt has been made in this study to quantify any such differentials, but it is generally recognized that, in many categories, foreign requirements, regulations and standards, are less stringent and have a lesser cost impact than those of the United States.

Finally, it also needs to be mentioned that expansion of this study to naval vessels, considering statutory and contractual requirements unique to these vessels, would produce an even more dramatic cost impact.

STUDY METHODOLOGY

The methodology utilized in compiling responses to the questionnaire for evaluation of the cost impact of selected laws and regulations of the United States upon costs of U.S. ship construction are discussed below.

General

Five shipyards completed the questionnaires. The answers submitted were coded to protect shipyard identities, summarized and carefully evaluated for levels of confidence. An answer submitted by an individual shipyard was discounted only when such response was excessively disparate to other answers.

Technical Requirements

This Evaluation involved the most subjective judgments of question included in the questionnaire. Of the five answers submitted, two were judgementally disallowed because of their disparate relationship to each other and to the three which remained for inclusion in Exhibit A. The three answers contained in Exhibit A were relatively compatible in their order of magnitude.

Employee's Fringe Benefits

The totals submitted by each of the five shipyards were quite proximate. Minor variations included in evaluations of individual laws were inconsequential in the total scope of the study. All five yards expressed a good level of confidence in their answers and all five are included in Exhibit A.

Occupational Safety and Health Act

Of the five answers submitted, one was judgementally disallowed because of its disparate relationship to the others. The remaining four answers are included in Exhibit A, although one of these shipyards expressed only a fair degree of confidence in the answer submitted and verbally advised the Council that its estimate might be only 50 percent of the actual cost increase attributable to OSHA.

Environmental Protection Agency, Administration and Reporting and Insurance and Guarantee

All of these evaluations were relatively minor in the total scope of the study and all were utilized in Exhibit A.

EXHIBIT A

Summary of the Estimated Cost Impact
of Selected U.S. Laws and Regulations

A) Theoretical estimated cost of 56,000 DWT product carrier:	$45,000,000
B) Estimated cost impact due selected U.S. laws and regulations:	

1) Maximum total cost impact	$ 5,100,000
As percentage of ship's total price (rounded)	11%
2) Average cost impact	$ 4,039,000
As percentage of ship's total price (rounded)	9%
3) Minimum cost impact	$ 2,993,000
As percentage of ship's total price (rounded)	7%

Effect of the selected U.S. laws and regulations on material costs was included in this study only to the extent of evaluating increased quantities of material purchases required attributable to those laws and regulations:

C) Theoretical cost estimate of the 56,000 DWT product carrier, excluding material costs	$25,000,000
D) Estimated cost impact, excluding material costs	$ 4,089,000
1) Maximum total cost impact:	
As percentage of ship's costs (rounded):	16%
2) Average cost impact:	$ 3,388,000
As percentage of ship's costs (rounded):	14%
3) Minimum cost impact:	$ 2,670,000
As percentage of ship's costs (rounded):	11%

E) Estimated increased costs on 56,000 DWT product carrier are due to:

	(Thousands of Dollars) Maximum	Average	Minimum
1) *Technical Requirements of* U.S. Coast Guard, American Bureau of Shipping, U.S. Public Health Service	$2,666	$2,134	$1,816
2) *Employees Fringe Benefits:* Longshoremen's and Harbor Workers' Compensation Act, Employee Retirement Income Security Act, Federal Insurance Contribution Act and Federal Unemployment Insurance	$1,116	$ 995	$ 793
3) *Occupational Safety & Health Act*	$ 994	$ 728	$ 309
4) *Environmental Protection Agency*	$ 187	$ 93	$ 33
5) *Administration & Reporting*	$ 52	$ 41	$ 11
6) *Insurance & Guarantee*	$ 85	$ 48	$ 31
Total estimated increased costs	$5,100	$4,039	$2,993
Less estimated additional material costs	–1,011	– 651	– 323
Total estimated increased costs excluding material costs	$4,089	$3,388	$2,670

Notes To Exhibit A:

1) Completed questionnaires and other details (coded to protect identity of participating shipyards) supporting this summary are in the files of the Shipbuilders Council of America.
2) All figures above are in 1978 dollars.
3) The scope of this study is limited to measuring the direct cost impact of major U.S. laws and regulations in the areas of:
   a) Increased quantities of materials due to increased design features attributable to those laws and regulations
   b) Increased direct labor costs
   c) Increased indirect labor and material costs
   d) Increased fringe benefit costs
   e) Increased depreciation and maintenance costs due to required capital improvements
   f) Increased insurance and guarantee costs
4) This study does not attempt to deal with the entire myriad of Federal laws and regulations, but only with those selected which are believed to produce the most dramatic costs impacts on the U.S. shipbuilding industry.
5) State and local laws and regulations vary and have therefore been excluded.
6) Suppliers of materials and components that go into the construction of ships are subjected to many of the same laws and regulations and the prices of their products would increase accordingly. Estimation of such additional costs to U.S. shipyards have not been considered by the scope of this study.

APPENDIX J

U.S. Shipbuilding Prices and Performance

For some while, there has been "recurring criticism" of the shipbuilding industry of the United States. This criticism is frequently echoed by the media and often by public officials to the detriment of the industry. It usually takes the form of insinuations that U.S. shipbuilders

- are generally inefficient,
- have a reputation for late deliveries, and
- are too expensive for what they provide.

Recognizing that these derogatory inferences often derive from casual gossip, imprecise facts, uninformed opinions and unscientific generalizations, a point-by-point rebuttal may contribute to needed enlightenment.

Efficiency

To discuss relative shipbuilding efficiency, it is first necessary to agree on a common unit of measurement and on a common standard of performance. Such criteria are difficult to formulate. There are many variations of ships in terms of hull form, size, capacity, speed and so on. Also, ships are procured and produced, here and abroad, under widely differing circumstances.

The traditional value added (labor plus overhead) measure for comparison is questionable because of distortions arising from dissimilar accounting practices in allocating man-hours between direct and indirect labor and because of pricing vagaries arising from dissimilar market conditions. National employment practices, such as the magnitude of subcontract labor in Japan, for example, can cause even more distortion.

The only common unit of output being used today is the so-called Compensated Gross Registered Ton (CGRT). It is an internationally accepted measure of shipbuilding output derived by multiplying Gross Registered Tons

by established coefficients to indicate the degree of sophistication of a given type of vessel. It applies to merchant ships exclusively. It does not take into account a major segment of U.S. shipbuilding activity — the construction of combatant and auxiliary vessels for the United States Navy.

In CGRT terms, a study for the Presidentially-appointed Commission on American Shipbuilding in 1973 by Lester B. Knight & Associates, Inc., found no substantive data "to support the general thesis that, on a man-hour basis, U.S. shipbuilding is less productive than foreign shipbuilding." The significance of this finding needs to be weighed in the light of these facts:

- U.S. ship designs call for more material and more intricate work than is required for foreign vessels of the same size, speed and subdivision designed for the same service. This disparity derives, in part, from domestic regulatory requirements and, in part, from traditional U.S. preferences and practices.

- Because of inconstant market opportunities, most major U.S. shipbuilders are rarely able to anticipate a stable workload and workforce which will enhance cost reductions and production efficiencies. On average, shipbuilding contracts are in units of two or three ships each, and quite often, more than one type of vessel is under construction in the same yard at the same time. Sometimes, naval and merchant ships are under simultaneous construction in the same facility. The resulting mixture of skill levels, specification requirements, technical standards and management supervision does not contribute to optimum productivity. Comparatively, Japanese shipbuilders, through the series construction or "runs" of ships of identical or near-identical design (many more than two or three units per design or contract) have been able to decrease costs and to increase productivity appreciably.

- Fluctuations in employment levels, the inevitable corollary of variable market opportunities, lead to periodic layoffs of skilled workers, recalls, new hires and training with consequent losses of labor efficiency and induced overhead costs.

- Some U.S. labor, social, safety and ecological statutes, requirements and standards have adverse effects on production and workforce efficiency, and increase labor-hour costs by very substantial amounts.

Obviously, the labor and dollar efficiency of U.S. shipbuilders could be greater than at present under conditions equal or comparable to those of other countries. Nevertheless the preponderance of professional opinion supports the 1973 report of the Commission on American Shipbuilding concluding that U.S. shipbuilding efficiency is by no means second-rate.

Relevantly, U.S. shipbuilders are not technologically deficient. More than $1.7 billion has been spent over recent years in capital improvements. Virtually every technical advance presently in the foremost foreign yards is also in use in U.S. yards. Some equipment, techniques and processes developed here have been copied abroad, and vice versa. Shipyard computer and information systems in the United States are equal to many abroad and more advanced than most.

The productivity of labor and material as well as the productivity of facilities — which in combination compose the cost of the end product and determine the rate of return on invested capital or the potentials for new investment capital — are directly related to the numbers and types of ships built. The steady decline in market opportunities for U.S. shipbuilders has been statistically recorded.

Late Deliveries

A complete analysis of delivery performance by U.S. shipbuilders has never been put together and is improbable of assembling for the reason that details as to causes are many and varied. Many delays are beyond the shipbuilder's control, and a credible comparison with the performance of foreign shipyards is not possible for lack of reliable information.

There are, of course, shipyards in every maritime country which deliver ships on schedule (only occasionally ahead of schedule), and there are those which deliver behind schedule. The circumstances, causes and reasons are never identical. To compare the best performance in one country with the worst performance in another can be a disservice to both countries and to the shipbuilding industries of each.

It needs to be remembered that ships are the largest mobile structures made by man. They are assembled from almost every kind of material, employing almost every skill, and utilizing the product of almost every industry. A ship, naval or merchant, is a complete town unto itself from water reservoir to power station, to be relied upon to move at the exact moment chosen, to proceed night and day through every kind of sea or weather, to circle the entire globe if necessary, and to reach a given destination not only once but repeatedly across the years.

During the construction cycle of such a complete and complex entity, a multitude of circumstances can combine to either impede or accelerate output. Not the least of these circumstances pertain to components which the builder must purchase from others. In the case of merchant vessels, at least 50/55 percent (abroad the comparable figure is closer to 40/45 percent) — in the case of major combatant naval vessels as much as 70 percent — of the cost of shipbuilding in the United States is represented by products, materials and services which come, in part, from virtually every State of the Union. Any disruption in the flow of these items to the shipyards can delay assembly and final delivery of the ship.

In Japan, disruptions are minimal because of the infrastructure of the shipbuilding industry. Major builders are integral units of large companies which also produce steel, propulsion equipment and other ships' components. Within the same corporate structure, production and delivery schedules for these necessary items are finely coordinated with production milestones in the shipbuilding cycle. This common interface not only enhances quality control, delivery commitments and profit potentials but also eliminates a substantial portion of the marketing costs associated with ordinary commercial selling.

The vertical integration of U.S. shipyards within larger corporate entities is not comparable.

Problems with respect to U.S. naval shipbuilding contracts have been widely reported. Some have been the subject of major disputes, litigation and claims. But, in the context of world shipbuilding, it needs to be stressed that U.S. government or U.S. government-sponsored (subsidized) contracts are different from contracts in other countries in allowing the owner the unilateral right to impose design changes during the construction cycle — practices which create delays in deliveries, added costs and production problems.

Faster building times for some types of ships are in most instances experienced on relatively long production "runs" of identical or near-identical designs developed by the shipbuilders. This approach enables fitting design details to the shipyard's specialized capabilities and enables the shipyard to control design, industrial engineering and material procurement in a manner that will contribute to efficient construction, and not unusually, cost reductions. Unfortunately, production "runs" in this country have been the exception rather than the rule.

Costs

"Too expensive for what is provided" can be understood in a number of ways. One is that "what" is provided is not good enough. Yet, the U.S.-flag ship, by statute and standards, is required to be, and in fact is, the safest, best equipped and most conservatively structured vessel built anywhere. What is being questioned apparently is the cost. This can be considered either in terms of a cost trend over time or in terms of U.S. cost compared with foreign price.

Information for naval ship construction is not available for such comparisons. The missions of naval vessels have changed, assessments of their effectiveness are not matters of public knowledge, and there is too little known about naval shipbuilding in other countries to make a meaningful analogy.

With regard to merchant ships, however, there can be differing criteria for comparisons. The view of the shipbuilder is predicated on a volume of work measured approximately in light weight tons in the vessel (weight of the vessel with equipment and outfit complete; no cargo aboard). The view of the owner or operator, on the other hand, is predicated on capacity, measured initially in deadweight, or bale cubic, or number of containers or barges, or barrels or cubic meters of liquid cargo. The view of the casual observer is most often predicated on the contract price for building the ship which reflects market vagaries and provisions for escalation in labor and material costs during the construction cycle.

But, here is a relevant point which is missed by critics of U.S. shipbuilding: the price per light weight ton (in constant dollars) for tankers, for example, has not increased, even though in recent designs a higher proportion of the light weight consists of more expensive and more complex materials. It is believed the same statement is valid for cargo ships even though wide variations in types and designs have emerged over the past ten years.

From the owner/operator standpoint, the price per unit of cubic capacity

has decreased very much more, and the price per unit of total cargo delivery capacity even more, because of much shorter port times and greater sea speeds resulting from modern cargo handling equipment and from more powerful and efficient propulsion plants respectively.

(The conclusions stated in the preceding two paragraphs are paraphrased from a paper, entitled "Characteristics and Constraints of Shipbuilding in the United States," accepted only recently for presentation at the 1979 Annual Meeting of the Society of Naval Architects and Marine Engineers, by H. I. Frienberg, D. M. Mack-Forlist and R. W. Thorpe, Jr., each of whom has had long experience in U.S. shipbuilding.)

On a historical basis, the owner or operator is getting more for the constant dollar by several orders of magnitude. The "too expensive" criticism is thus presumably directed at comparisons with foreign prices. Importantly, such comparisons can be illusory.

Worldwide, an increasing number of shipbuilders are today chasing a decreasing number of ship construction opportunities. Below-cost prices are being offered by many foreign shipbuilders: in many cases, with the approval, encouragement and financial indemnification of their governments. Some are reportedly quoting prices at ten to 40 percent below actual costs. In this country, persistent inflation and domestic regulatory requirements — innerent responsibilities of government — restrain the kind of price/cost maneuvering which currently benefits shipbuilders abroad.

Some of the same factors which affect relative efficiency also need to be considered in weighing relative prices:

- There are appreciable differences between U.S. and foreign ships of the same capacity and the same dimensions and general characteristics for the same service. These differences arise in part from U.S. regulatory requirements, to a much lesser degree from the more conservative designs of structure and some of the equipment which are based on accepted U.S. industry practice, and to a minor extent from U.S. crew requirements. The cost of these differences has been estimated at various times by private and Government agencies, at ten percent or more.

- Shipbuilders construct ships that are ordered by their customers — to the customer's specifications so long as those specifications conform with proven engineering principles and existing standards, regulations and statutes. Engineering principles relating to stability are constant, but standards, regulations and statutes are variable from country to country. Within those regulations and standards, customer preferences are likewise variable, and the shipbuilder produces the ship which the customer orders. Contractually, he is bound accordingly.

- There are social, environmental and safety requirements in the United States which are not paralleled abroad except in the Scandinavian countries, and possibly Great Britain. The differences between the United States and the major market price pace makers, Japanese shipbuilders, are probably about 10/15 percent of the cost of a labor

hour. The differences with such countries as South Korea, Spain and Brazil, are much greater and are only partially balanced by any greater efficiency of U.S. shipyards.

- Until the drop in the dollar exchange rate, foreign shipyards had advantages in wage cost. At 1977 rates, for example, West German and Japanese wages were 15/18 percent below U.S. rates. Spanish and South Korean wages were one-third and one-fifth of U.S. wages respectively.

- Foreign shipyards receive a variety of aids from their governments. Some nations, previously openly critical of maritime assistance programs, have now added direct subsidy to a subtle array of indirect credit and tax mechanisms. These involve the use of government power, leverage and influence to support national interest considerations and to serve commercial as well as political objectives: in some instances, to earn foreign exchange. Great Britain and Sweden have gone to the extreme of nationalizing their shipyards. Acknowledgement of the continuing strategic and economic importance of shipbuilding has been the underlying motivation. By these devices, shipyards in one country are not competing with shipyards in another country. Governments (the United States being a major exception) are competing with governments to capture ship construction opportunities — wherever, whenever and at whatever price — to serve what is considered to be their self-interests. As found by the Office of Management, Administration and Pricing of the Department of Labor, in a recent case, the resulting price aberrations amount to "dumping."

- Price comparisons must also be considered in the light of currency fluctuations. Until two years ago, a 10,000,000,000-yen ship cost about $33,000,000. Now, at the same year price, the cost is about $50,000,000. In a normal market, this substantial variation in monetary value would have a definite bearing on the competitive position of shipyards.

It is difficult to evaluate the aggregate cost variable of these different factors. It is obviously tremendous and largely beyond the control of U.S. shipyards.

Summary

Shipbuilding costs (as distinguished from prices in the present world situation) and efficiencies are intrinsically related to production volume. In turn, production volume and continuity become a function of the market place. As shipbuilding orders decrease in numbers and opportunities for series construction of similar ships decline as well, increased costs (quite apart from inflation) and production inefficiencies are inevitable. Such has been the case over the past five years.

In the United States, unlike in other countries, there have been no comprehensive governmental moves to counter the devolution in shipbuilding activity and employment. There has been no national direction. Leadership has been lacking. National policy has been aimless. There has been virtually no official interest in measures to assure some semblance of operational and workforce stability to the end that national security requirements will be served through

the stimulation of an optimum level of contracts. The reverse seems very much to be the case.

In Japan, shipbuilding technology originally developed in the United States has been perfected, expanded and put to effective use through a careful integration of governmental and industrial planning, supported by adequate financing, pointed toward an increasing (more recently, a stable) worldwide market share and long-term potential. From this baseline, opportunities for production "runs" have developed and continue to develop. At this time, costs, prices and profits appear to be only secondary considerations. Volume is primary. With a continuing (though reduced) volume, efficiency and productivity can be maintained at acceptable levels, and the national objective of Japan remaining a dominant factor in world shipbuilding can be achieved.

Critics of U.S. shipbuilding, unfortunately, miss the whole point with respect to the thrust of the Japanese phenomenon: increasing volume. Instead, they would further decrease opportunities for U.S. shipbuilders by turning to shipbuilders in Japan and elsewhere. A substantial decimation of U.S. shipbuilding resources with long range implications would result. In Japan, any move by a domestic shipowner to have merchant ships constructed outside of Japan is considered a national calamity and has rarely occurred. Yet, shipbuilders of other countries consistently build more than 60 percent of the ships ordered by U.S.-based companies or their affiliates.

Ironically, these same critics of the U.S. shipbuilding industry ignore the very real evidence that public policy in this country, through the ever-increasing costs of requirements, regulations and standards, imposed upon U.S. shipbuilders by Congressionally-enacted statutes or administrative edicts, is contributing, in a substantial way, to the higher cost of ship construction in the United States as compared with the balance of the world.

To be sure, the U.S. shipbuilding industry should not be immune from criticism. There is always room for improvement. But, it is improvement which cannot be attained by shipbuilders alone. In today's context, this fact is ignored by critics of the industry. As Disraeli said more than a century ago: "It is much easier to be critical than to be correct."

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